

ABSTRACT

This invention presents improved combustion methods, systems, engines and apparatus utilizing H_2 , O_2 and H_2O as fuel, thereby providing environmentally friendly combustion products, as well as improved fuel and energy management methods, systems, engines and apparatus. The Water Combustion Technology; WCT, is based upon water (H_2O) chemistry, more specifically H_2O combustion chemistry and thermodynamics. WCT does not use any hydrocarbon fuel source, rather the WCT uses H_2 preferably with O_2 and secondarily with air. The WCT significantly improves the thermodynamics of combustion, thereby significantly improving the efficacy of combustion, utilizing the first and second laws of thermodynamics. The WCT preferably controls combustion temperature with H_2O and secondarily with air in the combustion chamber. The WCT preferably recycles exhaust gases as fuel converted from water. The WCT minimizes external cooling loops and minimizes exhaust and/or exhaust energy, thereby maximizing available work and internal energy while minimizing enthalpy and entropy losses.